



Preliminary Industrial Assessment

An Approach
for Developing an
Efficient Depot
Sustainment Solution


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The Criticality of Need

Passionate discussions on federal spending and the national debt, along with political and outside pressures at the national level, will drive calls for further budget reductions. DoD will be required to take its share of these cuts. To that end, the Office of the Secretary of Defense (OSD) is under an edict for a \$400 billion cut in security spending by FY 2023.

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Immediate spending corrections are required in light of these budget reductions and the potential for greater cuts in the future. A significant allocation of the annual DoD budget is for the operations and support (O&S) costs of weapon systems, accounting for 60 percent to 70 percent of total ownership cost (TOC). Depot maintenance costs are a considerable portion of O&S costs. Therefore, there will be more pressure to establish the most efficient and effective depot maintenance solutions in order to reduce costs while maintaining warfighter readiness. This will require logical, risk-balanced, and defensible planning as early as possible in the acquisition lifecycle.

The Defense Acquisition Workforce is at a critical stage, as we change to processes and policies to achieve savings. The linkages between depot maintenance planning and the overall acquisition process have room for improvement; they *must* improve and become more efficient. To address these needs and challenges, NAVAIR has developed an initiative, along with associated depot maintenance planning tools for program managers.

As a means of accomplishing these goals, the NAVAIR Industrial Business Operations Office developed the "Strategic Planning Imperatives for Industrial Depot Maintenance" document (SPI for IDM) <http://www.navair.navy.mil/logistics/library/SPI.pdf>. It focuses on a specific set of activities, with an emphasis on early planning for depot maintenance. These imperatives, though developed for NAVAIR, could be applied across all Services, in that they address the generic industrial-maintenance sectors of source Service, interservice,

and commercial with public private partnership (PPP) components. The major concept that evolved from these imperatives is performing the early planning via a preliminary industrial assessment (PIA). The PIA helps address cost savings through early planning. The components of the PIA (Core Logistics Analysis [CLA] and Source of Repair Analysis [SORA]) and strategic considerations enable programs to plan resource expenditures early, through timely decisions on depot maintenance posturing.

Leveraging Current Program Requirements

Industrial depot maintenance is a significant part of weapon system total ownership costs. It includes each Service's organic depots, the interservice agreements with one or more depots of the other Services, and commercial activities (with a possible performance based logistics [PBL] or PPP arrangement with a DoD organic depot). The program management team must analyze these options to determine the most effective and efficient solution for their program. Great emphasis must be placed on early planning to ensure the solution is implemented when required and as envisioned. This allows the program to establish cost estimates with greater confidence, determine all capability establishment requirements, establish accurate timing and funding requirements during the POM cycle, and reduce dependency on interim contractor support (ICS).

Depot sustainment planning must be part of and tied to the overall acquisition lifecycle framework model (titled the Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System [a.k.a. "the wall chart"]). Policies and instructions such as DoDI 5000.02 of 2008, section 805 of the FY2010 National Defense Authorization Act, and Dr. Carter's 2010 memo to acquisition professionals have identified the need for acquisition reform and for an association between acquisition and depot maintenance planning. Among these are requirements for a CLA and SORA to be accomplished prior to Milestone B; maximizing competition and making the best possible use of available DoD and industry resources at the system, subsystem, and component levels; maximizing value to the DoD by providing the best possible product support outcomes at the lowest operations and support cost; and the requirement for each major weapon system to be supported by a product support manager.

Depot maintenance planning is tied to overarching guidance as well as the guidance within the acquisition lifecycle framework model. Within NAVAIR, the path followed is the Navy's Systems Engineering Technical Review (SETR) process, a series of technical reviews performed throughout the acquisition lifecycle for assessing technical maturity, design maturity, and the ability to meet user requirements and expectations. These SETR reviews provide the valuable data points with information for performing depot maintenance solution planning. Other Services have similar processes when following the acquisition framework, collecting information and analyses for key events such as Systems

Functional Review (SFR), Preliminary Design Review (PDR), Critical Design Review (CDR), etc.

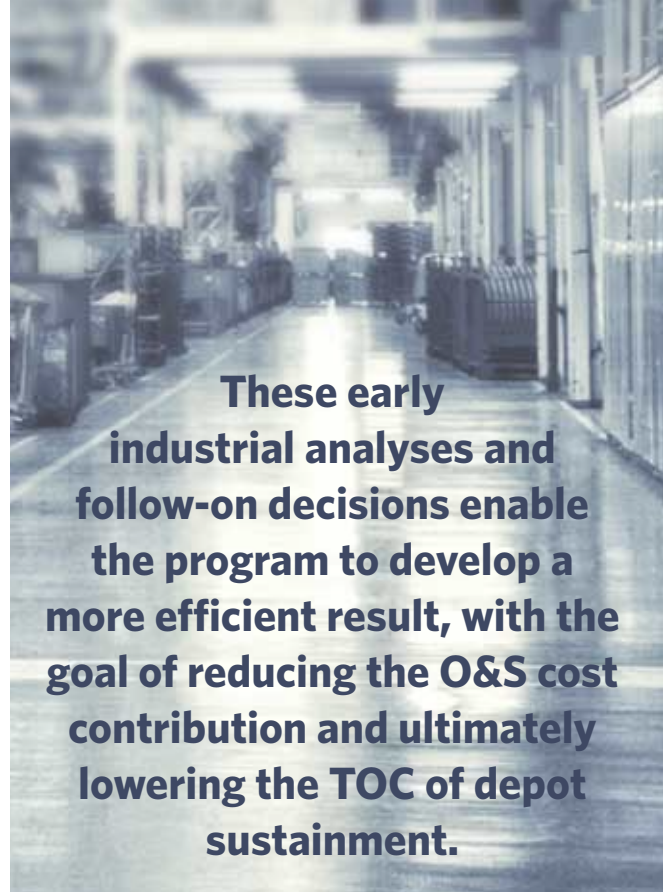
Naval Aviation's Source of Repair Analysis

To have a positive impact on depot maintenance and other associated costs (O&S and TOC), planning must be performed as early as possible in the acquisition lifecycle. This early depot maintenance solution planning allows greater fidelity in cost estimating, leading to accurate funding requests, and determination of the support infrastructure (e.g., technical manuals, training, facilities, depot plant equipment, etc.) It is understood that early on, all the detailed depot-level repairable (DLR) information is not available for analysis; therefore, the required decisions need to be made with the limited information available. The PIA process is a tool to assist the programs with the early planning, using available information. The focus is to provide the potential solutions that funnel to the final depot-level sustainment solution (Service, interservice, or commercial) based on these early analyses. To this end, the information and analysis developed as part of the PIA process is used as the entry point for performing the final Core analysis/advisory and entering into the Depot Maintenance Interservice (DMI) review process to obtain the Depot Source of Repair (DSOR) decision.

The first component of the PIA process, the CLA, is a non-economic analysis providing early awareness to the programs of Core capability required to be established at a public/organic depot. The CLA is an input to the final Core analysis, which provides the definitive decision on the systems, sub-systems, assemblies, sub-assemblies, and parts that must have organic repair capability established.

The second PIA process component, a SORA, is closely tied to the CLA. The analysis, performed in accordance with DoD policy, identifies an array of potential depot repair sites (organic and commercial) for consideration and review by the program in performing its early sustainment solution planning. The outputs from the SORA process are further analyzed, evaluated, and refined once DLR-level data is available to determine the definitive depot-level sustainment solution to be implemented.

The last component of the PIA process is titled "Strategic Considerations." This area is focused on the special concerns that may lead to establishing organic capability where it would not otherwise be required. The analysis may include: a review of the criticality of the weapon systems mission, which might lead to a Service establishing organic maintenance capability for non-Core assets; a study of Title 10 considerations, including planning for 50/50 compliance (i.e. by directing more workload to organic depots); an action that potentially directs use of a Service Center of Industrial and Technical Excellence (CITE); and/or a strategic planning need for replacement organic workload when the supported weapon systems are sunseting.

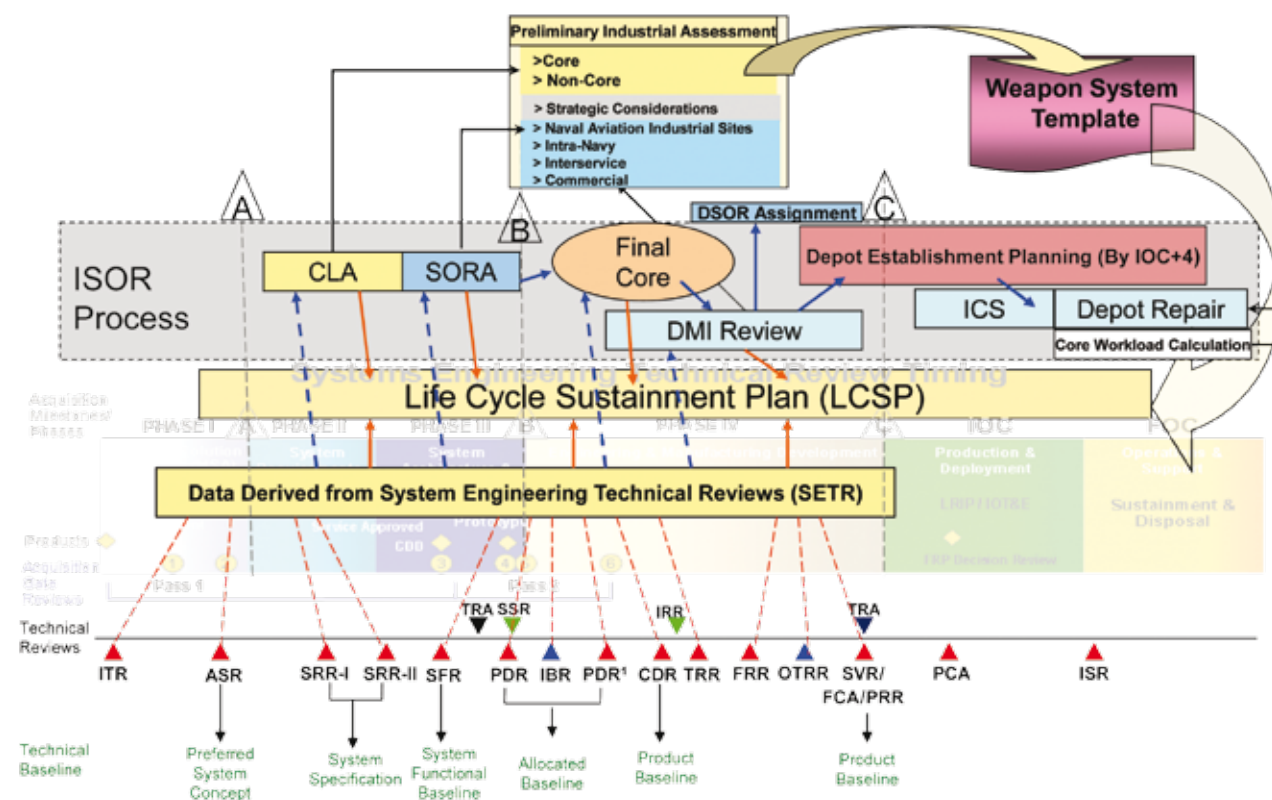


These early industrial analyses and follow-on decisions enable the program to develop a more efficient result, with the goal of reducing the O&S cost contribution and ultimately lowering the TOC of depot sustainment.

The PIA is a living analysis updated throughout a weapon system's lifecycle, and documented as an exhibit in the Life Cycle Sustainment Plan (LCSP). The PIA process leverages data from the SETR process technical reviews leading up to Milestone B of the acquisition framework. Graphical representation of the alignment of the two processes can be seen in Figure 1. By using the outputs from the SETR technical reviews, the program gains the advantages of early planning without needing to generate additional data and information. As stated earlier, the technical reviews being performed by NAVAIR under the Navy's SETR process are the same as those being done by the other Services moving through the acquisition lifecycle.

As the program moves through the acquisition lifecycle and performs the later technical reviews, more mature DLR identification information (e.g., part numbers, NIIN/NSN) is generated. This, along with PIA process output, is used to perform the final Core analysis/advisory and enter the DMI review process to obtain the DSOR decision. This final DSOR decision provides the authority to begin investing in the stand-up of the documented source (i.e., investment in capability stand-up **cannot** begin until the DSOR decision is finalized). The organic portion of the depot-level maintenance solution must be established no later than 4 years after Initial Operating Capability (IOC), and therefore the program benefits from the DSOR decision being made as early as possible. This is to accomplish the ultimate goal of having the depot-level maintenance capability stood up and in place to support the fielded weapon system to meet warfighter readiness requirement and minimizing, if not negating, costly ICS.

Figure 1. Industrial Depot Maintenance Management Process



PIA Is an Approach for Developing an Efficient Depot Sustainment Solution

The PIA process provides program managers the “what” and “why” of an early industrial analysis. Program offices determine how to implement industrial maintenance planning by using the tools provided in the SPI for IDM (including the PIA process) aligned to the SETR process. The end result of the PIA process should be early and timely identification of potential industrial depot maintenance capability solutions (to be reviewed, analyzed, and funded for implementation) that would support a program’s overall readiness goals. The optimal result is balanced to include the use of Service specific, interservice, and commercial (through PBL solutions using PPP) depot-level sources without unnecessarily duplicating DoD depot maintenance capability and capacity. While other Services and agencies may not decide to call it a PIA, these processes should be easily adaptable to their requirements and goals, regardless of the terms used.

All industrial depot solution planning tools, including this PIA process, must be ultimately linked to the acquisition framework and the events and milestones within it. These early industrial analyses and follow-on decisions enable the program to develop a more efficient result, with the goal of reducing the O&S cost contribution and ultimately lowering the TOC of depot sustainment.

Effecting a Positive Change

The current and future plans are for large-scale reductions to overall DoD budgets. Industrial depot maintenance will be identifying efficiencies to support these reductions. While continuing to support readiness levels required by overseas contingency operations, the enterprise must become more efficient and effective. Each weapon system’s acquisition life cycle will require fact-based, accurate, risk-balanced depot maintenance solution planning and decisions. The potential solution must then be analyzed and refined by information from technical reviews during the acquisition cycle as the design matures and stabilizes. By supporting and applying the recommendations in the *Strategic Planning Imperatives for Industrial Depot Maintenance 2010-2017*, including successfully performing an assessment such as the NAVAIR PIA process as early as possible using the SETR data, program managers gain greater leverage for performing planning, which helps maximize depot maintenance effectiveness and optimize investments.

Although the SPI for IDM was developed for Naval aviation, everything in it and the PIA process could be adopted for use by other Services or agencies. For readers who would like additional information on these or other related depot processes, please contact NAVAIR’s Industrial Business Office at 301-757-8427.

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